



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,615	03/29/2001	Katsuaki Matsuo	19036/37155	4565

4743 7590 07/23/2002

MARSHALL, GERSTEIN & BORUN  
6300 SEARS TOWER  
233 SOUTH WACKER  
CHICAGO, IL 60606-6357

EXAMINER
----------

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 07/23/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/806,615

Applicant(s)

MATSUO ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other:

### **DETAILED ACTION**

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of claim 15 is confusing because it depends on a cancelled claim, namely, claim 9. Should the dependency be changed from claim 9 to claim 10?

### **Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 10-11, 13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11123869 in view of JP 09296035.

Pending formal translation, it is noted that a machine translation of JP 11123869 discloses resin composition for ink jet recording comprising hydrophilic polymer and cationic polymer obtained from 65-98.9% ethylene, 0.1-15% acrylate, and 1-35% acrylamide identical to presently claimed formula IV. The cationic polymer has molecular weight of 1,000-50,000. The ratio of hydrophilic polymer to cationic polymer is 5:1 to 10:1. There is also disclosed an ink jet recording sheet comprising substrate layer and water color ink acceptance layer, i.e. ink receiving layer, which comprises the above composition and an ink jet recording method wherein aqueous ink is applied to ink receiving layer. There is further disclosed a method of producing ink jet recording sheet comprising co-extruding a resin composition that forms substrate layer with resin composition as presently claimed (paragraphs 5, 12, 21, 29, 36-37, 65, and 74(4)).

The difference between JP 11123869 and the present claimed invention is the requirement in the claims of specific water-absorbing polymer.

While JP 11123869 discloses that the hydrophilic polymer includes those comprising polyalkylene oxide, there is no disclosure of polymer as required in claimed formula I.

Pending formal translation, it is noted that a machine translation of JP 09296035 discloses polymer of the formula  $(AXAR_2)$  wherein A is  $(CH_2CH_2O)_n-(CH_2CHO)_m-(CH_2CH_2O)_p$  where  $44(m+p)/72n$  is 85/15 to 95/5,  $p/(m+p)$  is 50% or greater, X is a residue of an organic compound having 2 active hydrogen groups, and  $R_2$  is a residue of dicarboxylic acid. The motivation for using such polymer is that it possesses outstanding water-absorptivity (abstract, paragraphs 4, 15-16, 28, and 76).

In light of the motivation for using specific water-absorbing polymer disclosed by JP 09296035 as described above, it therefore would have been obvious to one of ordinary skill in the art to use such polymer in JP 11123869 in order to produce composition which effectively absorbs water, and thus ink, and thereby arrive at the claimed invention.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11123869 in view of JP 09296035 as applied to claims 10-11, 13, and 16-18 above, and further in view of Kojima et al. (U.S. 4,830,911).

The difference between JP 11123869 in view of JP 09296035 and the present claimed invention is the requirement in the claims of specific type of cationic polymer.

JP 11123869 disclose cationic polymer identical to that presently claimed with the exception that the acrylamide monomer of JP 11123869 discloses nitrogen substituted with three

alkyl groups, while the acrylamide of presently claimed formula V requires that the nitrogen is substituted with two alkyl groups and one hydrogen group.

However, given the similarity between the claimed monomer and that disclosed by JP 11123869 and given that the compound of JP 11123869 is used in cationic polymer which is used in resin composition for ink receiving layer, which is the identical function of the presently claimed compound, it would have been natural for one of ordinary skill in the art to infer that the presently claimed compound is just an obvious variant of that in JP 11123869 and to expect that the acrylamide monomer of JP 11123869 would have similar properties as that of presently claimed formula V. Evidence to support this position is found in Kojima et al., which is drawn to ink jet recording sheet, and discloses the equivalence and interchangeability of using acrylamide monomer with nitrogen substituted with three alkyl groups as disclosed by JP 11123869 with acrylamide monomer as presently claimed.

In light of the above, and absent evidence to the contrary, it therefore would have been obvious to one of ordinary skill in the art to use acrylamide monomer as presently claimed, and thereby arrive at the claimed invention.

7. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11123869 in view of JP 09296035 as applied to claims 10-11, 13, and 16-18 above, and further in view of either Abe et al. (U.S. 5,372,884) or Shih et al. (U.S. 6,153,288).

The difference between JP 11123869 in view of JP 09296035 and the present claimed invention is the requirement in the claims of surfactant.

Abe et al., which is drawn to ink jet recording sheet, disclose the use of 0.1-7% cationic or nonionic surfactant in order to improve the sharpness of images (col. 3, line 66-col.4, line 16)

Alternatively, Shih et al., which is drawn to ink receptive composition, disclose the use of up to 10% cationic or nonionic surfactant in order to help wet pigment and/or enhance quality of resulting composition (col.4, line 66-col.5, line 18).

In light of the motivation for using surfactant disclosed by either Abe et al. or Shih et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such surfactant in JP 11123869 in order to produce sharp images, or alternatively, help wet pigment and/or enhance quality, and thereby arrive at the claimed invention.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 07195826, JP 11208107, and Kakishita et al. (U.S. 6,387,594) each disclose recording sheet comprising water-absorbent polymer as set forth in presently claimed formula (I), however, there is no disclosure of cationic polymer.

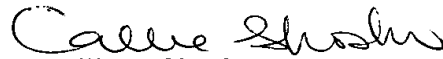
JP 04198308 and Tsubaki et al. (U.S. 5,859,141) each disclose cationic polymer as presently claimed, however, there is no disclosure of water-absorbent polymer.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

Art Unit: 1714

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho  
Examiner  
Art Unit 1714

CS  
July 19, 2002